



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-6670; Directorate Identifier 2016-NM-006-AD; Amendment 39-18789; AD 2017-02-10]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2013-19-04 for certain

The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes.

AD 2013-19-04 required repetitive inspections for cracking of the skin around the

fasteners common to the ends of certain bulkhead chords, and related investigative

actions and corrective actions if necessary; and provided an optional terminating

modification. This new AD reduces the inspection threshold and repetitive inspection

intervals. This AD was prompted by a report of cracks found in the skin at fasteners of

certain bulkhead chords. We are issuing this AD to address the unsafe condition on these

products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a

certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Boeing

Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600

Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6670.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6670; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Alan Pohl, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6450; fax: 425-917-6590; email: [alan.pohl@faa.gov](mailto:alan.pohl@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-19-04, Amendment 39-17586 (78 FR 59801, September 30, 2013) (“AD 2013-19-04”). AD 2013-19-04 applied to certain The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes. The NPRM published in the Federal Register on May 12, 2016 (81 FR 29505) (“the NPRM”). The NPRM was

prompted by a report of cracks found in the skin at body station (STA) 540 just below stringer S-22L. The NPRM proposed to continue to require repetitive detailed and high frequency eddy current inspections for cracking of the skin around the eight fasteners common to the ends of the STA 540 bulkhead chords between stringers S-22 and S-23, left and right sides; related investigative actions and corrective actions, if necessary; and to provide an optional terminating modification. The NPRM also proposed to reduce the inspection threshold and repetitive inspection intervals. We are issuing this AD to detect and correct fatigue cracking in the fuselage skin around the eight fasteners securing the STA 540 bulkhead chords, which could result in rapid decompression of the cabin.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Support for the NPRM**

Boeing and United Airlines had no objections to the NPRM.

### **Effect of Winglets on Accomplishment of the Proposed Actions**

Aviation Partners Boeing stated that installation of winglets, as provided in Supplemental Type Certificate (STC) ST00830SE, does not affect the ability to accomplish the actions proposed in the NPRM.

We concur with the commenter. We have redesignated paragraph (c) of the proposed AD as (c)(1) and added paragraph (c)(2) to this AD to state that installation of STC ST00830SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST00830SE is installed, a "change in product" alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

### **Request to Clarify Access and Restoration Requirements**

All Nippon Airways requested that we clarify if the access and restoration instructions specified in the service information referenced in paragraph (k) of the proposed AD are required actions.

We agree to clarify this issue. Access and restoration actions are not part of the actions required to correct the unsafe condition identified in this AD. Therefore, access and restoration actions were excluded from the required actions in AD 2013-19-04 and are excluded from the required actions in this AD. We have added the service information referenced in paragraph (k) of this AD to paragraph (i)(4) of this AD. Paragraph (i)(4) of this AD specifies that the access and restoration actions specified in the referenced service information are not required by this AD.

### **Request to Clarify Corrective Action**

Southwest Airlines (SWA) requested that we clarify the corrective action for drilling the new drag link assembly. SWA stated that the service information only provides instructions for parts constructed of aluminum and that the drag link assembly is made from titanium.

We agree that clarification is necessary. Boeing has informed us that revised service information is forthcoming. However, since the revised service information is not yet available, we do not consider that delaying this action until after the release of the manufacturer's revised service bulletin is warranted. When this service information becomes available, and upon satisfactory review, we plan to approve it as a global alternative method of compliance (AMOC) to the appropriate requirements of this AD. The issue raised by SWA affects only the on-condition repair instructions and not the required inspection to detect the identified unsafe condition. We have added paragraph (i)(5) to this AD to specify that repairs provided in Part 4 or Part 5 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1294,

Revision 2, dated December 9, 2015 (“SASB 737-53-1294 R2”), must be done before further flight, using a method approved in accordance with the procedures specified in paragraph (l) of this AD. We have revised paragraphs (g) and (h) of this AD accordingly.

#### **Clarification of Exception to Repetitive Intervals**

For clarity, we have changed the format of paragraph (g) of this AD to make it clear the exceptions apply to the entire paragraph, including the repetitive inspection sentence specified in paragraph (g) of this AD.

#### **Clarification of Terminating Actions**

We have clarified paragraph (h) of this AD to specify that accomplishing the skin repair or preventive modification, as specified in the applicable part of the Accomplishment Instructions of Boeing SASB 737-53-1294 R2, is terminating action for the side on which the skin repair or preventive modification is done.

#### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

#### **Related Service Information under 1 CFR part 51**

We reviewed SASB 737-53-1294 R2. The service information describes procedures for inspecting the skin around the eight fasteners common to the ends of the

STA 540 bulkhead chords between stringers S-22 and S-23, left and right sides, for cracking, repairing cracks, and installing a chord splice as a preventive modification. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Costs of Compliance**

We estimate that this AD affects 903 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection (left and right sides)	12 work-hours X \$85 per hour = \$1,020 per inspection cycle	\$0	\$1,020 per inspection cycle	\$921,060 per inspection cycle

We estimate the following costs to do any necessary repairs and inspections that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

#### **On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Preventive modification (each side)	7 work-hours X \$85 per hour = \$595	\$894	\$1,489
Skin repair (each side)	39 work-hours X \$85 per hour = \$3,315	Up to \$5,635	Up to \$8,950

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not

control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2013-19-04, Amendment 39-17586 (78 FR 59801, September 30, 2013), and adding the following new AD:

**2017-02-10 The Boeing Company:** Amendment 39-18789; Docket No. FAA-2016-6670; Directorate Identifier 2016-NM-006-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2013-19-04, Amendment 39-17586 (78 FR 59801, September 30, 2013) (“AD 2013-19-04”).

#### **(c) Applicability**

(1) This AD applies to The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category, as identified in Boeing Special Attention Service Bulletin 737-53-1294, Revision 2, dated December 9, 2015 (“SASB 737-53-1294 R2”).



(2) Installation of Supplemental Type Certificate (STC) ST00830SE [[http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/184DE9A71EC3FA5586257EAE00707DA6?OpenDocument&Highlight=st00830se](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/184DE9A71EC3FA5586257EAE00707DA6?OpenDocument&Highlight=st00830se)] does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST00830SE is installed, a “change in product” alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by a report of cracks found in the skin at body station (STA) 540 just below the left side of stringer S-22. We are issuing this AD to detect and correct fatigue cracking in the fuselage skin around the eight fasteners securing the STA 540 bulkhead chords, which could result in rapid decompression of the cabin.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection and Corrective Action**

Except as required by paragraphs (i)(1) and (i)(2) of this AD: At the applicable time specified in table 1 of paragraph 1.E., “Compliance,” of SASB 737-53-1294 R2, do detailed and high frequency eddy current (HFEC) inspections for cracking of the skin in the area around the eight fasteners securing the STA 540 bulkhead chords between stringers S-22 and S-23; and do all applicable related investigative and corrective actions; in accordance with Parts 1, 2, 3, 4, and 5 of the Accomplishment Instructions of SASB 737-53-1294 R2, except as required by paragraphs (i)(3), (i)(4), and (i)(5) of this AD. Do all applicable related investigative and corrective actions before further flight. Except as required by paragraph (i)(2) of this AD, repeat the detailed and HFEC

inspections thereafter at the intervals specified in table 1 of paragraph 1.E., “Compliance,” of SASB 737-53-1294 R2, until the optional preventive modification specified in paragraph (h) of this AD is done.

**(h) Skin Repair or Optional Preventive Modification**

Accomplishing the skin repair or preventive modification, including an HFEC inspection for cracking of the skin and STA 540 bulkhead chords, and all applicable repairs, in accordance with paragraph 3.B, Part 2 or Part 4 (left side), or Part 3 or Part 5 (right side), as applicable, of the Accomplishment Instructions of SASB 737-53-1294 R2, except as required by paragraphs (i)(2) and (i)(5) of this AD, terminates the inspection requirements of paragraph (g) of this AD for the side on which the skin repair or preventive modification is done.

**(i) Exceptions to Service Bulletin Specifications**

(1) Where paragraph 1.E., “Compliance,” of SASB 737-53-1294 R2, specifies a compliance time “after the Revision 2 date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) For airplanes on which Boeing Business Jet Lower Cabin Altitude Supplemental Type Certificate (STC) ST01697SE ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/0812969a86af879b8625766400600105/\\$FILE/ST01697SE.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/0812969a86af879b8625766400600105/$FILE/ST01697SE.pdf)) (6,500 feet maximum cabin altitude in lieu of 8,000 feet) has been incorporated, the flight-cycle related compliance times for the inspection required by paragraph (g) of this AD are different from those specified in paragraph 1.E., “Compliance,” of SASB 737-53-1294 R2. All initial compliance times specified in total flight cycles or flight cycles must be reduced to half of those specified in SASB 737-53-1294 R2. All repetitive interval compliance times specified in flight cycles must be reduced to one-quarter of those specified in paragraph 1.E., “Compliance,” of SASB 737-53-1294 R2.

(3) If any cracking is found during any inspection required by this AD, and SASB 737-53-1294 R2, specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(4) The access and restoration actions identified in the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1294, dated March 31, 2011; Boeing Special Attention Service Bulletin 737-53-1294, Revision 1, dated June 14, 2013; or SASB 737-53-1294 R2; are not required by this AD. Operators may perform those actions in accordance with accepted maintenance procedures.

(5) For doing repairs specified in Part 4 or Part 5 of the Accomplishment Instructions of SASB 737-53-1294 R2: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

**(j) Supplemental Inspections Not Required by this AD**

Table 2 of paragraph 1.E., “Compliance,” of SASB 737-53-1294 R2, specifies post-modification airworthiness limitation inspections in compliance with 14 CFR 25.571(a)(3) at the modified locations, which support compliance with 14 CFR 121.1109(c)(2) or 129.109(b)(2). As airworthiness limitations, these inspections are required by maintenance and operational rules. It is therefore unnecessary to mandate them in this AD. Deviations from these inspections require FAA approval, but do not require an AMOC.

**(k) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 737-53-1294, dated March 31, 2011, which is not incorporated by reference in this AD; or Boeing Special Attention Service Bulletin

737-53-1294, Revision 1, dated June 14, 2013, which was incorporated by reference in AD 2013-19-04.

**(l) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (m)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for the optional preventive modification installed in accordance with paragraph (h) of AD 2013-19-04, and AMOCs approved previously for repairs for AD 2013-19-04, are approved as AMOCs for the corresponding provisions of this AD, provided that such modification or repair included installation of the splice plate as specified in Boeing Special Attention Service Bulletin 737-53-1294, except as provided by paragraph (l)(5) of this AD.

(5) The time-limited repair approved as specified in FAA Letter 120S-15-140, dated June 3, 2015, is approved as an AMOC to the corresponding requirements of this AD.

**(m) Related Information**

(1) For more information about this AD, contact Alan Pohl, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6450; fax: 425-917-6590; email: alan.pohl@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(3) and (n)(4) of this AD.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Special Attention Service Bulletin 737-53-1294, Revision 2, dated December 9, 2015.

(ii) Reserved.

(3) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on January 18, 2017.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.  
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